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NOTES ON GEOGRAPHIC DISTRIBUTION

Aves, Apodiformes, Trochilidae, *Topaza pella* (Linnaeus, 1758): A range reinforcement in Amazonian Brazil

Bradley J.W. Davis [1*] and Scott T. Olmstead [2]

1 Rua São Cosme e Damião, 247, Caixa Postal 481. CEP 78580-000. Alta Floresta, MT, Brazil.
2 Tropical Birding, Felix Oralabal N45-55 y Joaquín Paredes, Edificio Espinosa piso 3. Quito, Ecuador.
* Corresponding author e-mail: *sclateria@yahoo.ca*

ABSTRACT: We present new distribution records for *Topaza pella* (Linnaeus, 1758) in the southern reaches of the Amazon Basin in Brazil. The two new localities presented for the species elucidate its range in southern Pará and northern Mato Grosso states, and in consideration of recent records elsewhere south of the Amazon River, suggest that the species is widely distributed across suitable habitat throughout the Brazilian Amazon.

The *Topaza* hummingbirds are amongst the largest members of the family, occupying lowland forests of northern Amazonia and the Guianan Shield where they apparently prefer the canopy and edge of forests on sandy soils, particularly along narrow blackwater streams and elsewhere near water (Schuchmann 1999; Ridgely *et al.* 2005). Hu *et al.* (2000) defined the known range limits for the *Topaza* hummingbirds and mapped the occurrence of *Topaza pella* (Linnaeus, 1758) across SE Venezuela and the Guianas, as well as from the central Brazilian Amazon in the state of Amazonas east to northwestern Pará state at the mouth of the Amazon River, in addition to a single isolated locality in eastern Rondônia state. Subsequent fieldwork in the eastern Amazon basin has confirmed the presence of *T. pella* in the Tapajós National Forest near Santarém, Pará (Henriques *et al.* 2003), Caxiaunã National Forest, Pará (L. Naka, *in litt*. 2006) and also at Trairão, Pará (Pacheco and Olmos 2005); recent records from the Roosevelt River in southern Amazonas state have further elucidated the species' range (Whittaker 2009).

During fieldwork on the São Benedito II River (known locally as "Rio Azul"), municipality of Novo Progresso, Pará (09°14'39" S, 55°59'16" W) we discovered two or three individual males and a single female *T. pella* at the edge of a narrow black- or clear-water river on 31 July 2007. All individuals were observed hawking insects over the river, both at the edge and over open water some 10 m from the bank, at heights from 10 cm (close to the riverbank) to 2.5 m (mid-river) above the river's surface. A pair was subsequently relocated near the same spot on 03 August 2007 where observed for 45 minutes at mid-day as they fed on nectar and defended an unidentified tree laden with flowering vines from several White-necked Jacobin *Florisuga mellivora* (Linnaeus, 1758) and White-chinned Sapphire *Hylocharis cyanus* (Vieillot, 1818). When not feeding or disputing territory, the birds perched in the open on exposed twigs in the upper levels of the tree at heights from 4-8 m. Our anecdotal feeding observations are consistent with other published observations of the genus from Brazil (*e.g.* Peres and Whittaker 1991; Stotz *et al.* 1997; Henriques *et al.* 2003). BJWD made field recordings of the species' characteristic loud vocalizations during both initial encounters with the species using a Sennheiser ME-67 shotgun microphone and a Marantz PMD-660 digital field recorder. These recordings will be archived at the INPA Bird Collection in Manaus and truncated cuts are also available at an online open-access resource (www.xeno-canto.org).

In return visits to the São Benedito II River in October 2007 and during week-long visits in each of the months of May, June, July and November 2008, and also in February, May, September and October 2009, BJWD found *T. pella* to be fairly common in the area. Multiple individuals could typically be found during fieldwork along the river – on 05 October 2007 no fewer than five individuals were detected along an 8 km stretch of river. In July 2008 three birds were detected at a single location on consecutive dates along a narrow (40 m) section of the river, where attracted with playback of the song of the Amazonian Pygmy-Owl *Glaucidium hardyi* Vielliard, 1990. Subsequently, in November 2008 while leading a commercial birdwatching tour along the Cristalino River in the municipality of Novo Mundo, Mato Grosso state (09°33'50" S, 55°54'28" W), BJWD located a single female *T. pella* perched low (< 0.5 m) on a dead branch overhanging the river's edge. The presence of the species was suspected upon detection of its harsh vocalizations, and once located was approachable to a few meters where M. Reid obtained the first photographic evidence for the species at this well-watched locality (A. Lees *in litt.* 2009). A further record from the Cristalino River was obtained on 17 November 2009 when BJWD briefly observed an adult male alternately bathing in and hovering about 1 m above a small lagoon inside *igapó* forest 150 m from the river's edge.

The majority of our records of *T. pella* were from the edges of the two narrow blackwater rivers we surveyed,

the São Benedito II and the Cristalino. The species is strongly associated with small watercourses; Nicholson (1931) recorded 44 nests in Guyana along a narrow tributary of the Essequibo averaging 12 m in width. Both Nicholson (1931) and Davis (1958) correlated the width of a watercourse with the presence/absence of *Topaza*. Forest streams too narrow to open a significant space in the canopy are mostly avoided by *Topaza*. During fieldwork from 2004 to 2009 along the Cristalino, we failed to detect the species at any of the five small streams we visited regularly within closed canopy *terra firme* forest. On the São Benedito II a pair was tape-recorded in taller forest (~ 20 m) canopy defending a flowering *Inga* sp. along a perennial forest stream (average width of 2-3 m) in May 2008 and a single male was seen at the edge of a large anthropogenic clearing bordering tall transitional forest in July 2008. The latter observation was our only encounter with the species away from water. Furthermore, the majority of our observations of the species at the two localities were in relatively stunted gallery forest on a sandy substrate (canopy heights from 10-20 m on the São Benedito II, greater than 20 m on the Cristalino). While canopy height appeared to make little difference in habitat selection – birds were variably observed from treetops down to the water's surface – there may be other edaphic factors which dictate the presence or absence of the species in the region. Dedicated searching for the species in river-edge forests and in tall *terra firme* forest away from watercourses in the Alta Floresta/Cristalino area yielded just the two November records. In spite of its presumed preference for forest canopies when away from watercourses, we consider *T. pella* a difficult species to overlook given its loud and distinctive vocalizations.

These documented records represent the fourth and fifth published localities for *T. pella* in the Tapajós-Xingu interfluvium (Figure 1), and extend its southeastern range limit by 550 km south from Trairão and 550 km east from the Roosevelt River. Our records bridge a major gap in the published distribution of the species and suggest that the Rondônia population is not isolated but more likely lies near the distributional limit of an undersampled intervening range. Filling distribution gaps in the Amazon basin on a species by species basis is vital to the understanding of habitat preferences and the conservation needs of individual species. As southern and eastern Amazonian Brazil receive greater sampling effort, it is likely that the range of *T. pella* will be further reinforced as field workers investigate areas with appropriate habitat meeting the species' ecological requirements. Recent fieldwork in the southern Amazon both west and east of the Tapajós River has revealed the presence of species with similar distributional patterns to *T. pella* which had previously been considered restricted to the Guianas and northeastern Amazonia such as Black-faced Hawk *Leucopternis melanops* (Latham, 1790) (Amaral *et al.* 2007), Yellow-throated Flycatcher *Conopias parvus* (Pelzeln, 1868) (Peres and Whittaker 1991; Alvarez and Whitney 2003; Poletto and Aleixo 2005; Aleixo and Poletto 2007), Guianan Red-Cotinga *Phoenicircus carnifex* (Linnaeus, 1758) (Pacheco *et al.* 2007), Crimson Fruitcrow *Haematoderus militaris* (Shaw, 1792) (Stotz *et al.* 1997; Whittaker 2009), Blue-backed Tanager *Cyanicterus cyanicterus* (Vieillot, 1819) (Peres and Whittaker 1991), Dotted Tanager *Tangara varia* (Statius Muller, 1776) (Lees et al. 2008; Whittaker 2009) and Red-and-black Grosbeak *Periporphyrus erythromelas* (Gmelin, 1789) (Fernandes 2007).

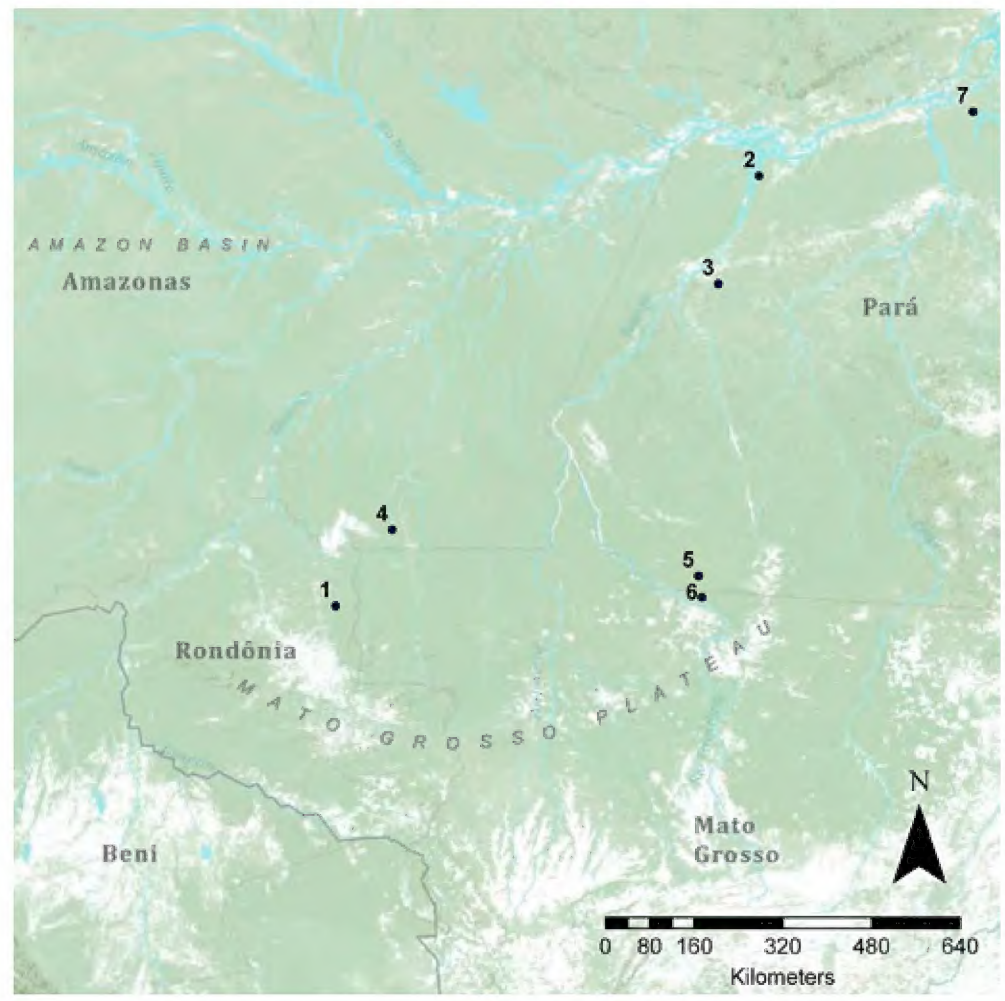

Figure 1. Localities for *Topaza pella* (Linnaeus, 1758) in Amazonian Brazil south of the Amazon River. 1 = Cachoeira Nazaré, Rondônia; 2 = Tapajós National Forest, Pará; 3 = Trairão, Pará; 4 = Roosevelt River, Amazonas; 5 = São Benedito II River, Pará; 6 = Cristalino River, Mato Grosso; 7 = Caxiuanã National Forest, Pará.

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